

We claim:

1. A method for filtering aqueous liquids, which comprises
5 carrying out the filtration of the aqueous liquid in the presence of a filter aid, wherein the filter aid comprises at least one particulate, water-insoluble and scarcely swellable polymer of ethylenically unsaturated monomers, which contains, copolymerized, at least 20% by weight, based on the
10 total weight of the monomers, of at least one α,β -monoethylenically unsaturated monocarboxylic acid having from 3 to 6 carbons.
2. The method as claimed in claim 1, wherein the ethylenically
15 unsaturated carboxylic acid is selected from the group consisting of acrylic acid, methacrylic acid and their mixtures.
3. The method as claimed in claim 1, wherein the polymer
20 contains, copolymerized, from 0.1 to 10% by weight of at least one compound having at least 2 nonconjugated, ethylenically unsaturated double bonds.
4. The method as claimed in claim 1, wherein the polymer
25 contains, copolymerized,
 - a) from 20 to 98.9% by weight of at least one
30 α,β -monoethylenically unsaturated monocarboxylic acid having from 3 to 6 carbons as monomer a),
 - b) from 1 to 79.9% by weight of styrene and/or at least one monounsaturated styrene derivative as monomer b),
 - c) from 0.1 to 10% by weight of at least one monomer c)
35 having at least 2 nonconjugated, ethylenically unsaturated double bonds, with or without
 - d) from 0 to 40% by weight of one or more monomers d) that
40 are different from monomers a) to c),with the percentages by weight of the individual components a) to d) totaling 100%.

5. The method as claimed in claim 1, wherein the polymer
5 contains, copolymerized,
- a) from 20 to 89.8% by weight of acrylic acid,
 - b) from 10 to 74.8% by weight of styrene or a mixture of
10 styrene and at least one monounsaturated styrene
derivative,
 - c) from 0.2 to 8% by weight of at least one monomer c),
15 selected from alkylene glycol di(meth)acrylates,
N,N'-divinylureas and N,N'-divinylaromatics, with or
without
 - d) from 0 to 10% by weight of one or more N-vinyllactams,
20 with the percentages by weight of the individual components
a) to d) totaling 100%.
6. The method as claimed in claim 1, wherein the polymer is a
25 popcorn polymer.
7. The method as claimed in claim 1, wherein the filtration is
carried out as precoat filtration.
8. The method as claimed in claim 7, wherein
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- 1. a precoat is formed on a support surface by applying an
aqueous suspension of the filter aid, comprising the
particulate, water-insoluble and scarcely swellable
polymer to the support surface and removing the aqueous
35 liquid by applying a pressure difference;
 - 2. the aqueous liquid to be filtered is filtered through the
precoat by applying a pressure difference through the
40 precoat.
9. The method as claimed in claim 7, wherein the amount of
precoat on the support surface ranges from 10 g/m² to 10
kg/m².
- 45 10. The method as claimed in claim 1, wherein the liquid to be
filtered is a fruit juice drink or fermented beverage.

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11. A water-insoluble, scarcely swellable polymer containing, copolymerized:

- 5 a) from 20 to 98.9% by weight of at least one α,β -monoethylenically unsaturated monocarboxylic acid having from 3 to 6 carbons as monomer a),
- 10 b) from 1 to 79.9% by weight of styrene and/or at least one monounsaturated styrene derivative as monomer b),
- c) from 0.1 to 10% by weight of at least one monomer c) having at least 2 nonconjugated, ethylenically unsaturated double bonds, with or without
- 15 d) from 0 to 40% by weight of one or more monomers d) different from the monomers a) to c),

with the percentages by weight of the individual components a) to d) totaling 100%.

20 12. A process for preparing polymers as claimed in claim 11, wherein the monomers a), b), c) with or without d) are polymerized in the absence of oxygen and polymerization initiators.

25 13. A process as claimed in claim 12, wherein the polymerization is carried out at a temperature of from 50°C to 200°C.

30 14. A process as claimed in claim 12, wherein the polymerization is carried out in the presence of a reducing agent.

35 15. A process as claimed in claim 12, wherein the polymerization is carried out in an aqueous reaction medium as precipitation polymerization.

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